Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement

For Sun Blade 6000 and
Sun Blade 6048 Modular Systems

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Contents

Preface

The *Sun Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade 6000 and 6048 Modular System* contains information about Integrated Lights Out Manager (ILOM) 3.0 that is specific to the Sun Blade™ 6000 modular system.

For a complete discussion of ILOM 3.0 and its capabilities along with user procedures, see the ILOM 3.0 documentation collection at:

http://docs.sun.com/app/docs/coll/ilom3.0

Related Documentation

The document set for the Sun Blade 6000 modular system is described in the *Where To Find Sun Blade 6000 Modular System Documentation* sheet that is packed with your system. You can also find the documentation at http://docs.sun.com/app/docs/prod/blade.6000mod

Translated versions of some of these documents are available at http://docs.sun.com. Select a language from the drop-down list and navigate to r document collection using the Product category link. Available translations include French, Simplified Chinese, Traditional Chinese, Korean, and Japanese.

English documentation is revised more frequently and might be more up-to-date than the translated documentation. For all Sun documentation, go to http://docs.sun.com.

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Sun Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade 6000 and 6048 Modular System, part number 820-7603-12.

CHAPTER 1

Introduction

This supplement provides platform-specific information related to ILOM 3.0 running on the Sun Blade 6000 or Sun Blade 6048 modular system CMM.

The following topics are covered in this chapter:

CMM ILOM Document Overview

This document is a supplement that contains information on ILOM updates specific to the Sun Blade 6000 and Sun Blade 6048 modular system CMM ILOM 3.x. This document also provides information on SNMP traps, PET traps, and ILOM sensors.

For information on CMM ILOM administration, see *Oracle Lights Out Manager (ILOM) CMM Administration Guide*.

For more detailed information on setting up and using the ILOM 3.x, refer to the documentation in the ILOM 3.0 Documentation Collection at:

`http://docs.sun.com/app/docs/coll/ilom3.0`

Note – The term blade module is used to refer to a module that could be either a server module or a storage module.

ILOM 3.x New Features List

ILOM 3.x includes many new features and functions that were not available in ILOM 2.x, including improved security, improved usability, and easier integration into your data center environment ILOM.

TABLE 1-1 lists new features for ILOM 3.0. These features are described more fully in the ILOM 3.0 Documentation Collection.

TABLE 1-1 ILOM 3.0 New Features

Category	Feature
General Functionality	
	DNS support
	Timezone support
	Configuration backup and restore
	Restore to factory defaults
	Enhanced LDAP and LDAP/SSL support
	Power management capabilities
	Ability to generate new SSH keys
Scalability and Usability	
	User-configurable filtering of hardware monitoring information in CLI and web interface
	Use host name to access other services by name, such as LDAP, Active Directory, LDAP/SSL
Security	
	More granular user roles
	Predefined `root` and `default` accounts
	User SSH key authentication
	Ability to disable the network management port when you are using only the serial port
	Ability to disable individual services, such as IPMI, SSH, and KVMS, so that the port is closed
Serviceability	
	Data collection utility to diagnose system problems

Key Updates for the CMM ILOM 3.x

Most updates for ILOM 3.x are described in the *Sun Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes.*

The following table lists additional key updates that are specific to the CMM ILOM 3.x:

Link to Update Information	Introduced in ILOM 3.x Version
"Changes in Power Allocated to the Blade Modules" on page 3	3.0.3
"System Fan Speed Control Improvements" on page 4	3.0.3
"Force Power Supply Fans to Low Speed" on page 4	3.0.6.11
"Light Load Efficiency Mode (LLEM)" on page 4	3.0.6.11
"Power Management Disable Feature Available" on page 4	3.0.6.11.c
"Changing the Blade SP CLI Prompt" on page 5	3.0.10
"Component Firmware Update" on page 5	3.0.10
"Sun Blade Zone Manager" on page 5	3.0.10

Changes in Power Allocated to the Blade Modules

There is a big change in ILOM 3.0 power allocation to the blade modules. In ILOM 2.0, a blade module determines if there is enough Permitted Power for all blade modules to power on; if there is not enough power, the blade module does not power on. For a rack with many high-powered blade modules, this results in no blade modules powering on.

In ILOM 3.0 (with ILOM 3.0 on both the CMM and on the blade modules), the blade module is allocated 0 Watts when it is powered off. When a blade module wants to power on, it contacts the CMM and requests some amount of power to be allocated to the slot. The CMM then allocates power to the slot and allows the blade module to power on. When a blade module powers off, it releases the power back to the CMM.

As a result, even if you have a rack full of high-powered blade modules, you can still power on some subset of blade modules. Once all permitted power is used up, you cannot power on any more blade modules until a running blade module is powered off. But once you power off one blade module, you'll be able to power on another blade module.

System Fan Speed Control Improvements

There are some fan speed control improvements in ILOM 3.0 for CMM, when ILOM 3.0 is running on both the CMM and blade modules. In ILOM 2.0, the CMM sets the fan speed based on ambient temperature. In ILOM 3.0, the CMM uses feedback from the blade modules to determine the lowest fan speed that will maintain appropriate temperature for the blade modules.

This new fan speed control feature is only available if the CMM and all blade modules in the chassis are running ILOM 3.0.

Force Power Supply Fans to Low Speed

A new feature in ILOM 3.0.6.11 (SW 3.1) allows you to adjust of power supply fans to low speed.

Refer to the *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide* for information.

Light Load Efficiency Mode (LLEM)

The Light Load Efficiency Mode (LLEM) is a new feature of CMM ILOM 3.0.6.11 that allows you to turn off individual power supply sides.

Refer to the *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide* for information.

Power Management Disable Feature Available

A new power management option has been added to ILOM 3.0.6.11.c (Software Version 3.1.3), which enables the user to disable power management so that blades in the chassis attempts to power on even if power allocation has been exceeded.

This procedure must only be performed under the supervision of Oracle service personnel.

Refer to the *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide* for information on this procedure.

Changing the Blade SP CLI Prompt

ILOM 3.0.10 (Software Version 3.2), includes an option for changing the blade SP CLI prompt through the CMM.

Refer to the *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide* for information on this procedure.

Component Firmware Update

In ILOM 3.0.10 (Software Version 3.2), a component firmware updated option is available through the CMM. This provides a centralized user interface for viewing the firmware version installed and initiating firmware updates on blades and NEMs installed in the chassis.

Refer to the *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide* for information on this procedure.

Sun Blade Zone Manager

In ILOM 3.0.10 (Software Version 3.2), the Sun Blade Zone Manager feature is available.

The Sun Blade Zone Manager enables you to assign storage devices in SAS-2 storage modules to SAS-2 enabled server blades. This feature is available only when SAS-2 server blades, storage blades, and NEMs are installed in the chassis. If the SAS-2 hardware environment is not available, the system displays the following error message:

```
The minimum set of SAS-2 hardware is not present or ready to
support this operation.
```

CHAPTER 2

Sensors

This chapter contains ILOM sensor information for both the Sun Blade 6000 and Sun Blade 6048 chassis. The information in this section is specific for ILOM 3.0.

For sensor information for previous versions of ILOM, see the *Integrated Lights Out Manager (ILOM) Administration Guide for the Sun Blade 6000 Modular System for Sun Blade 6000* and the *Sun Blade 6048 Modular System Service Manual* for the Sun Blade 6048.

This chapter contains the following sections:

Types of Sensors

There are two types of CMM sensors:

- Discrete sensors display information about the CMM components.
- Threshold sensors show analog values, such as temperature readings or voltage levels.

Discrete Sensors

Discrete sensors display a single value from a set of possible values.

Discrete sensors are displayed in the following format:

```
/PATH/TO/SENSOR
    Targets:
        $(POSSIBLE_SUB_SENSORS)
    Properties:
        type = $(SENSOR_TYPE)
        class = Discrete
        value = $(SENSOR_VALUE)
```

Where the following variables are used:

- POSSIBLE_SUB_SENSORS: A list of sensors below this sensor. Examples include fault or warning sensors. Using the `cd` command, you can navigate to the sub-sensor node.
- SENSOR_TYPE: The type of sensor.
- SENSOR_VALUE: The sensor value.

Threshold Sensors

Threshold sensors display analog readings, such as temperature or voltage levels, and can display associated thresholds for that reading. These can be configured to generate system events when they exceed specified thresholds.

In general, these sensors are displayed in the following format:

```
/PATH/TO/SENSOR
    Targets:
        $(POSSIBLE_SUB_SENSORS)
    Properties:
        type = $(SENSOR_TYPE)
        class = Threshold
        value = $(SENSOR_VALUE) $(SENSOR_UNITS)
        upper_nonrecov_threshold = $(UNR_THRESH) $(SENSOR_UNITS)
        upper_critical_threshold = $(UC_THRESH) $(SENSOR_UNITS)
        upper_noncritical_threshold = $(UNC_THRESH) $(SENSOR_UNITS)
        lower_noncritical_threshold = $(LNC_THRESH) $(SENSOR_UNITS)
        lower_critical_threshold = $(LC_THRESH) $(SENSOR_UNITS)
        lower_nonrecov_threshold = $(LNR_THRESH) $(SENSOR_UNITS)
```

- POSSIBLE_SUB_SENSORS: A list of sensors below this sensor. Examples include fault or warning sensors. Use the CD command to navigate to the sub-sensor.

- SENSOR_TYPE: The type of sensor.
- SENSOR_VALUE: The near real-time analog reading from the sensor.
- SENSOR_UNITS: The units describing the SENSOR_VALUE reading.
- UNR_THRESH, UC_THRESH UNC_THRESH, LNR_THRESH, LC_THRESH, LNC_THRESH: These values may generate a system event if the SENSOR_VALUE crosses their thresholds.

If the CLI has no access to threshold values, for example if a component is not present, the corresponding sensor is displayed as "0.000".

Displaying Sensors

All sensors are located in the /CH namespace. To display the sensors using the CLI, separate the fields into targets and navigate using the `cd` and `show` commands.

For example, the speed for fan 0 in fan module 3 can be viewed by entering:

```
-> show /CH/FM3/F0/TACH
```

Note – If the chassis slot does not contain a server module, or if a power supply is not present, the corresponding target might not appear. For example, if slot 3 is empty, the target `BL3` might not appear.

Sensor Information

All sensors listed in this section can be accessed through the ILOM CLI or web interface by placing `/CH` in front of the sensor path shown here. For example, to access the `NEM`*n*`/PRSNT`, use the path `/CH/NEM`*n*`/PRSNT`.

Note – The Reading value in column 1 of each table is used by impitool to represent the State shown in column 2.

The following sensors are described in this section:

NEM Sensors

There are two network express module (NEM) slots available in the chassis. NEMs are numbered from 0 to 1.

`NEM`*n*`/PRSNT`

These sensors report whether the NEMs are present.

TABLE 2-1 NEMn/PRSNT Readings

Reading	State	Event	Description
0x0001	Device Absent	Yes	NEM is absent.
0x0002	Device Present	Yes	NEM is present.

NEM*n*/STATE

These sensors report the state of any multi-fabric NEMs that are installed in the chassis.

TABLE 2-2 NEMn/STATE Readings

Reading	State	Event	Description
0x0001	Running	Yes	NEM is running.
0x0004	Powered Off	Yes	NEM is powered off.
0x0040	Degraded	Yes	NEM needs to be serviced

NEM*n*/ERR

These sensors report whether any multi-fabric NEMs have failed.

TABLE 2-3 NEMn/ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	Yes	NEM has not failed.
0x0002	Predictive Failure Asserted	Yes	NEM has failed.

Power Supply Sensors

There are two power supply modules in the chassis. Each power supply module contains two power supplies or “sides” for the Sun Blade 6000 chassis and three power supply sides for the Sun Blade 6048 chassis. Power supply modules are numbered from 0 to 1 and power supply sides are numbered from 0 to 1.

PS*n*/PRST

Reports the presence of the power supply module.

TABLE 2-4 PS*n*/PRST Readings

Reading	State	Event	Description
0x0001	Device Absent	Yes	Power supply is absent.
0x0002	Device Present	Yes	Power supply is present.

PS*n*/IN_POWER

These threshold sensors report the input (AC) power to the power supplies in Watts.

The power sensors are only accurate when the chassis is drawing a significant amount of power. Under low power conditions, the chassis cannot accurately measure power, so it will report "no reading". Typically, accurate power cannot be reported if the Sun Blade 6000 chassis is drawing less than 1500 Watts or if the Sun Blade 6048 chassis is drawing less than 2200 Watts.

PS*n*/OUT_POWER

These threshold sensors report the output (DC) power from the power supplies in Watts.

The power sensors are only accurate when the chassis is drawing a significant amount of power. Under low power conditions, the chassis cannot accurately measure power, so it will report "no reading". Typically, accurate power cannot be reported if the Sun Blade 6000 chassis is drawing less than 1500 Watts or if the Sun Blade 6048 chassis is drawing less than 2200 Watts.

PS*n*/T_AMB

These threshold sensors report the ambient temperature of the power supply modules.

PS*n*/V_12V

These threshold sensors report the power supply module 12V voltage reading.

PS*n*/V_3V3

These threshold sensors report the power supply module 3_3V voltage reading.

PS*n*/I_3V3

These threshold sensors report the power supply module 3_3V current rating.

PS*n*/V_3V3_ERR

Reports a power supply module 3_3V sensor fault.

TABLE 2-5 PS*n*/V_3V3_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply 3_3V fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply 3_3V fault has occurred.

PS*n*/TEMP_WRN

Reports that ambient temperature reaches the following range: 50º to 60º C.

TABLE 2-6 PS*n*/TEMP_WRN Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply ambient temperature has not reached the 50º to 60º C range.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply ambient temperature has reached the 50º to 60º C range.

PS*n*/TEMP_ERR

Reports presence of a power supply temperature error.

TABLE 2-7 PS*n*/TEMP_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply temperature fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply temperature fault has occurred.

PS*n*/FAN_ERR

Reports presence of a power supply fan error.

TABLE 2-8 PS*n*/FAN_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply fan fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply fan fault has occurred.

PS*n*/FAN*n*/TACH

These threshold sensors report the speed of the two fans in the power supply.

PS*n*/S*n*/V_OUT_OK

Reports the state of a power supply side.

TABLE 2-9 PS*n*/S*n*/V_12V_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply side fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply side fault has occurred.

PS*n*/S*n*/I_12V

These threshold sensors report the power supply side 12V voltage reading.

PS*n*/S*n*/V_IN_ERR

Reports a power supply side fault.

TABLE 2-10 PS*n*/S*n*/V_12V_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply side fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply side fault has occurred.

PS*n*/S*n*/V_12V_ERR

Reports a power supply side 12V voltage sensor fault.

TABLE 2-11 PS*n*/S*n*/V_12V_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply side 12V voltage fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply side 12V voltage fault has occurred.

PS*n*/S*n*/I_12V_ERR

Reports a power supply side 12V voltage sensor fault.

TABLE 2-12 PS*n*/S*n*/V_12V_ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply side 12V voltage fault has not occurred.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply side 12V voltage fault has occurred.

PS*n*/S*n*/I_12V_WRN

Reports that power supply side 12V output current exceeds 240A for 100 msec.

TABLE 2-13 PS*n*/S*n*/I_12V_WRN Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that a power supply side 12V current does not exceed 240A for 100 msec.
0x0002	Predictive Failure Asserted	Yes	This state indicates that a power supply side 12V current exceeds 240A for 100 msec.

VPS

VPS is the virtual power sensors and reports the total power used by the chassis (typically the sum of PS0/IN_POWER and PS1/IN_POWER).

The power sensors are only accurate when the chassis is drawing a significant amount of power. Under low power conditions, the chassis cannot accurately measure power, so it will report "no reading". Typically, accurate power cannot be reported if the Sun Blade 6000 chassis is drawing less than 1500 Watts or if the Sun Blade 6048 chassis is drawing less than 2200 Watts.

Fan Sensors

The Sun Blade 6000 chassis contains six fan modules and the Sun Blade 6048 chassis contains eight fan modules. Each module contains two fans. Fan modules are numbered from 0 to 5 for Sun Blade 6000 and 0 to 7 for Sun Blade 6048. Fans are numbered from 0 to 1.

FM*n*/F*n*/TACH

These sensors report individual fan speeds. All fan speed sensors are configured to generate the same events and all faults are handled in the same way. They are not monitored when the chassis is powered off.

TABLE 2-14 FMn/Fn/TACH Readings

Threshold	Direction	Event	Description
Lower Non-Recoverable	Assert	Yes	Fan speed has decreased below lower non-recoverable threshold. This indicates that the fan has failed or has been removed.
Lower Non-Recoverable	Deassert	Yes	Fan speed has returned to normal from lower non-recoverable. This indicates that the fan has returned to normal or has been replaced.

FM*n*/ERR

These sensors report fan module failure status.

TABLE 2-15 FM*n*/ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that the fan module has not failed.
0x0002	Predictive Failure Asserted	Yes	This state indicates that the fan module has failed.

Blade Module Sensors

The Sun Blade 6000 chassis has 10 blade slots for server or storage modules (blade modules) and blade slots are numbered from 0 to 9.

The Sun Blade 6048 chassis has 12 blade slots for server or storage modules (blade modules) and blade slots are numbered from 0 to 11.

BL*n*/PRSNT

These sensors report whether server modules are present in the specified slots.

TABLE 2-16 BL*n*/PRSNT Readings

Reading	State	Event	Description
0x0001	Device Absent	No	Server module is not present.
0x0002	State Present	No	Server module is present.

BL*n*/STATE

These sensors report the state of the server modules.

TABLE 2-17 BL*n*/STATE Readings

Reading	State	Event	Description
0x0001	Running	No	Server module is running.
0x0004	Power Off	No	Server module is not powered off.
0x0020	Off Duty	No	Server module is ready to remove.

BL*n*/ERR

These sensors report whether there is a fault on the server module.

TABLE 2-18 BL*n*/ERR Readings

Reading	State	Event	Description
0x0001	Predictive Failure Asserted	Yes	Server module has failed.
0x0002	Predictive Failure Deasserted	Yes	Server module has not failed.

BL*n*/VPS

These sensors report the virtual power for the server modules. This sensor should match the /SYS/VPS sensor reading on the server module. Slots are numbered from 0 to 9 for Sun Blade 6000 and 0 to 11 for Sun Blade 6048.

This sensor is only available on some server modules, and only if the server module is running ILOM 3.0. Otherwise, BLn/VPS will report "no reading". Refer to the server module documentation to determine whether or not this sensor is available.

Chassis Sensors

The following sensors are for the Sun Blade 6000 and Sun Blade 6048 chassis.

HOT

This sensor reports if any blade is requesting full fan speed due to high temperature.

TABLE 2-19 HOT Readings

Reading	State	Event	Description
0x0001	State Deasserted	No	This state indicates that no blade is requesting full fan speed.
0x0002	State Asserted	No	This state indicates that one ore more blades is requesting full fan speed.

T_AMB

T_AMB reports ambient air temperature based on available power supply inlet air temperature readings. This sensor is for monitoring only; no threshold is defined.

P_OVER_WARN

Reports power supply oversubscription state.

TABLE 2-20 P_OVER_WARN Readings

Reading	State	Event	Description
0x0001	State Deasserted	No	Power supplies are not oversubscribed; blade modules are allowed to turn on.
0x0002	State Asserted	No	Power supplies are oversubscribed; some blade modules might not turn on.

CHAPTER 3

SNMP and PET Reference Information

This section describes Simple Network Management Protocol (SNMP) and Platform Event Trap (PET) messages that are generated by devices being monitored by ILOM. The messages described in this section are for both Sun Blade 6000 modular system and Sun Blade 6048 modular system.

SNMP Traps

SNMP Traps are generated by the SNMP agents that are installed on the SNMP devices being managed by ILOM. ILOM receives the SNMP Traps and converts them into SNMP event messages that appear in the event log. For more information about the SNMP event messages that might be generated on your system, see the following table.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
event fault.chassis. device.fail	sunHwTrapIOFault	/CH/NEM	Major	A component in the IO subsystem is suspected of causing a fault.
event fault.chassis. device.fail	sunHwTrapIOFaultCleared	/CH/NEM	Informational	An IO subsystem component fault has been cleared.
Upper critical threshold exceeded	sunHwTrapTempCritThresholdExceeded	/CH/T_AMB /CH/PSx/T_AMB	Major	A temperature sensor has reported that its value has gone above an upper critical threshold setting or below a lower critical threshold setting.
Upper critical threshold no longer exceeded	sunHwTrapTempCritThresholdDeasserted	/CH/T_AMB /CH/PSx/T_AMB	Informational	A temperature sensor has reported that its value has gone below an upper critical threshold setting or above a lower critical threshold setting.
Upper fatal threshold exceeded	sunHwTrapTempFatalThresholdExceeded	/CH/T_AMB /CH/PSx/T_AMB	Critical	A temperature sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting.
Upper fatal threshold no longer exceeded	sunHwTrapTempFatalThresholdDeasserted	/CH/T_AMB /CH/PSx/T_AMB	Informational	A temperature sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting.
Assert	sunHwTrapPowerSupplyError	/CH/P_OVER_WARN	Major	A power supply sensor has detected an error.
Deassert	sunHwTrapPowerSupplyOk	/CH/P_OVER_WARN	Informational	A power supply sensor has returned to its normal state.
Assert	sunHwTrapComponentError	/CH/HOT /CH/PSx/Sx/V_OUT_OK	Major	A sensor has detected an error. This generic 'component' trap is generated when the SNMP agent does not recognize the component type.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Deassert	sunHwTrapComponentOk	/CH/HOT /CH/PSx/Sx/V_OUT_OK	Informational	A sensor has returned to its normal state. This generic 'component' trap is generated when the SNMP agent does not recognize the component type.
Lower fatal threshold exceeded	sunHwTrapFanSpeedFatalThresholdExceeded	/CH/PSx/FANx/TACH	Critical	A fan speed sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting.
Lower fatal threshold no longer exceeded	sunHwTrapFanSpeedFatalThresholdDeasserted	/CH/PSx/FANx/TACH	Informational	A fan speed sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting.

PET Event Messages

Platform Event Trap (PET) events are generated by systems with Alert Standard Format (ASF) or an IPMI baseboard management controller. The PET events provide advance warning of possible system failures. For more information about the PET event messages that might occur on your system, see the following table.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Temperature Upper critical threshold has been exceeded	petTrapTemperatureUpperNonCriticalGoingHigh	/CH/T_AMB /CH/PSx/T_AMB	Major	Temperature has increased above upper critical threshold.
Temperature Upper critical threshold no longer exceeded	petTrapTemperatureUpperNonCriticalGoingLowDeassert	/CH/T_AMB /CH/PSx/T_AMB	Warning	Temperature has decreased below upper critical threshold.
Temperature Lower fatal threshold has been exceeded	petTrapTemperatureUpperNonRecoverableGoingHigh	/CH/T_AMB /CH/PSx/T_AMB	Critical	Temperature has increased above upper non-recoverable threshold.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Temperature Lower fatal threshold no longer exceeded	petTrapTemperatureUpperNonRecoverableGoingLowDeassert	/CH/T_AMB /CH/PSx/T_AMB	Major	Temperature has decreased below upper non-recoverable threshold.
Temperature sensor ASSERT	petTrapTemperatureStateAssertedAssert	/CH/HOT	Critical	Temperature event occured. Possible cause: CPU is too hot.
Temperature sensor DEASSERT	petTrapTemperatureStateDeassertedAssert	/CH/HOT	Informational	Temperature event occured.
Entity Presence Insert	petTrapEntityPresenceDeviceInsertedAssert	/CH/BLx/PRSNT /CH/BLx/HDDx/PRSNT /CH/BLx/FMODx/PRSNT /CH/BLx/ESM/PRSNT /CH/NEMx/PRSNT /CH/PSx/PRSNT	Informational	A device is present or has been inserted.
Entity Presence Remove	petTrapEntityPresenceDeviceRemovedAssert	/CH/BLx/PRSNT /CH/BLx/HDDx/PRSNT /CH/BLx/FMODx/PRSNT /CH/BLx/ESM/PRSNT /CH/NEMx/PRSNT /CH/PSx/PRSNT	Informational	A device is absent or has been removed.
Module Transition to Running assert	petTrapModuleBoardTransitionToRunningAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device has transitioned to the normal running state. For a blade, this indicates that the host has powered on.
Module Transition to In Test assert	petTrapModuleBoardTransitionToInTestAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device is in a transitional state. (Only used for NEMs.)
Module Transition to Power Off assert	petTrapModuleBoardTransitionToPowerOffAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device has powered off.
Module Transition to On Line assert	petTrapModuleBoardTransitionToOnLineAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device is online and ready to enter the running state. (Only used for NEMs.)
Module Transition to Off Line assert	petTrapModuleBoardTransitionToOffLineAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	Unused.
Module Transition to Off Duty assert	petTrapModuleBoardTransitionToOffDutyAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device is no longer in use and is ready to be removed.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Module Transition to Degraded assert	petTrapModuleBoardTransitionToDegradedAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	A device is has entered a state of degraded operation, for example, due to a hardware fault, or an over-temperature condition that caused the device to shut itself down.
Module Transition to Power Save assert	petTrapModuleBoardTransitionToPowerSaveAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	Unused.
Module Install Error assert	petTrapModuleBoardInstallErrorAssert	/CH/BLx/STATE /CH/NEMx/STATE	Informational	Unused.
OEM Reserved reporting Predictive Failure	petTrapOEMPredictiveFailureAsserted 12583937	/CH/BLx/ERR /CH/BLx/ESM/ERR /CH/NEMx/ERR	Major	OEM predictive failure asserted.
OEM Reserved Return to normal	petTrapOEMPredictiveFailureDeasserted	/CH/BLx/ERR /CH/BLx/ESM/ERR /CH/NEMx/ERR	Informational	OEM predictive failure deasserted.
Fan reporting Predictive Failure	petTrapFanPredictiveFailureAsserted	/CH/FMx/ERR /CH/PSx/FAN_ERR	Major	Fan Predictive Failure detected.
Fan Return to normal	petTrapFanPredictiveFailureDeasserted	/CH/FMx/ERR /CH/PSx/FAN_ERR	Informational	Fan Predictive Failure state has been cleared.
Voltage reporting Predictive Failure	petTrapVoltagePredictiveFailureAssertedAssert	/CH/PSx/V_3V3_ERR /CH/PSx/Sx/V_IN_ERR /CH/PSx/Sx/V_12V_ERR	Major	Voltage Predictive Failure detected.
Voltage Return to normal	petTrapVoltagePredictiveFailureDeassertedAssert	/CH/PSx/V_3V3_ERR /CH/PSx/Sx/V_IN_ERR /CH/PSx/Sx/V_12V_ERR	Informational	Predictive failure state due to voltage event has been cleared.
Temperature reporting Predictive Failure	petTrapTemperaturePredictiveFailureAsserted	/CH/PSx/TEMP_WRN /CH/PSx/TEMP_ERR	Major	System is reporting a predictive failure as a result of high temperature.
Temperature Return to normal	petTrapTemperaturePredictiveFailureDeasserted	/CH/PSx/TEMP_WRN /CH/PSx/TEMP_ERR	Informational	Predictive failure state due to high temperature has been cleared.
Fan Lower fatal threshold has been exceeded	petTrapFanLowerNonRecoverableGoingLow	/CH/PSx/FANx/TACH	Critical	Fan speed has decreased below lower non-recoverable threshold. Fan failed or removed.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Fan Lower fatal threshold no longer exceeded	`petTrapFanLowerNonRecoverableGoingHighDeassert`	/CH/PSx/FANx/TACH	Major	Fan speed has increased above lower non-recoverable threshold.
Voltage sensor ASSERT	`petTrapVoltageStateAssertedAssert`	/CH/PSx/Sx/V_OUT_OK	Informational	Voltage event occured.
Voltage sensor DEASSERT	`petTrapVoltageStateDeassertedAssert`	/CH/PSx/Sx/V_OUT_OK	Informational	Voltage event occured.
Current reporting Predictive Failure	`petTrapCurrentPredictiveFailureAsserted`	/CH/PSx/Sx/I_12V_ERR /CH/PSx/Sx/I_12V_WRN	Major	Predictive Failure due to electric current conditions.
Current Return to normal	`petTrapCurrentPredictiveFailureDeasserted`	/CH/PSx/Sx/I_12V_ERR /CH/PSx/Sx/I_12V_WRN	Informational	Predictive failure caused by electric current conditions.